



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : F. Chris Minion et al.
Serial No. : 10/607,631
Filed : June 27, 2003
Title : IMMUNOGENIC MYCOPLASMA HYOPNEUMONIAE POLYPEPTIDES

Art Unit : 1645
Examiner : Unknown

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

TRANSMITTAL

The following correspondence relating to this application is enclosed for filing:

1. Information Disclosure Statement (1 page);
2. Form PTO-1449 (3 pages);
3. Copies of cited references (47 references); and
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Respectfully submitted,

Date: December 22, 2003

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INFORMATION DISCLOSURE STATEMENT

Applicant submits the references listed on the attached form PTO-1449.

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Substitute Form PTO-1449 (Modified) Information Disclosure Statement by Applicant (Use several sheets if necessary) (37 CFR §1.98(b))	U.S. Department of Commerce Patent and Trademark Office	Attorney's Docket No. 08411-035001	Application No. 10/607,631
	Applicant F. Chris Minion et al.		
	Filing Date June 27, 2003	Group Art Unit 1645	

U.S. Patent Documents

Examiner Initial	Desig. ID	Document Number	Publication Date	Patentee	Class	Subclass	Filing Date If Appropriate
	AA	5,580,859	12/3/96	Felgner et al.			
	AB	5,589,466	12/31/96	Felgner et al.			
	AC	5,703,055	12/30/97	Felgner et al.			
	AD	5,836,905	11/17/98	Lemelson et al.			
	AE	6,162,435	12/19/00	Minion et al.			

Foreign Patent Documents or Published Foreign Patent Applications

Examiner Initial	Desig. ID	Document Number	Publication Date	Country or Patent Office	Class	Subclass	Translation	
							Yes	No
	AF							

Other Documents (include Author, Title, Date, and Place of Publication)

Examiner Initial	Desig. ID	Document
	AG	Bordier, "Phase Separation of Integral Membrane Proteins in Triton X-114 Solution," <u>J. Biol. Chem.</u> , 1981, 256:1604-1607
	AH	Cordwell et al., "Characterisation of basic proteins from <i>Spiroplasma melliferum</i> using novel immobilised pH gradients," <u>Electrophoresis</u> , 1997, 18:1393-1398
	AI	Djordjevic et al., "Serum and mucosal antibody responses and protection in pigs vaccinated against <i>Mycoplasma hyopneumoniae</i> with vaccines containing a denatured membrane antigen pool and adjuvant," <u>Aust. Vet. J.</u> , 1997, 75:504-511
	AJ	Djordjevic et al., "An improved enzyme linked immunosorbent assay (ELISA) for the detection of porcine serum antibodies against <i>Mycoplasma hyopneumoniae</i> ," <u>Vet. Microbiol.</u> , 1994, 39:261-274
	AK	Dybvig and Yu, "Regulation of a restriction and modification system via DNA inversion in <i>Mycoplasma pulmonis</i> ," <u>Mol. Microbiol.</u> , 1994, 12:547-560
	AL	Friis, "Mycoplasmas Cultivated from the Respiratory Tract of Danish Pigs," <u>Acta Vet. Scand.</u> , 1971, 12:69-79
	AM	Glew et al., "pMGA Phenotypic Variation in <i>Mycoplasma gallisepticum</i> Occurs In Vivo and Is Mediated by Trinucleotide Repeat Length Variation," <u>Infect. Immun.</u> , 2000, 68:6027-6033
	AN	Gobom et al., "Sample Purification and Preparation Technique Based on Nano-scale Reversed-phase Columns for the Sensitive Analysis of Complex Peptide Mixtures by Matrix-assisted Laser Desorption/Ionization Mass Spectrometry," <u>J. Mass Spectrom.</u> , 1999, 34:105-116
	AO	Guerreiro et al., "New <i>Rhizobium leguminosarum</i> Flavonoid-Induced Proteins Revealed by Proteome Analysis of Differentially Displayed Proteins," <u>Mol. Plant Microbe Interact.</u> , 1997, 10:506-516
	AP	Hsu and Minion, "Molecular analysis of the p97 cilium adhesin operon of <i>Mycoplasma hyopneumoniae</i> ," <u>Gene</u> , 1998, 214:13-23
	AQ	Hsu and Minion, "Identification of the Cilium Binding Epitope of the <i>Mycoplasma hyopneumoniae</i> P97 Adhesin," <u>Infect. Immun.</u> , 1998, 66:4762-4766

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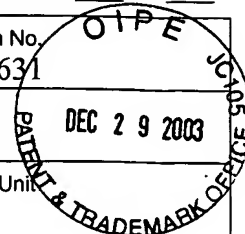
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Other Documents (include Author, Title, Date, and Place of Publication)

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	AR	Hsu et al., "Cloning and Functional Analysis of the P97 Swine Cilium Adhesin Gene of <i>Mycoplasma hyopneumoniae</i> ," <u>J. Bacteriol.</u> , 1997, 179:1317-1323
	AS	Kim et al., "Identification and Mapping of an Immunogenic Region of <i>Mycoplasma hyopneumoniae</i> p65 Surface Lipoprotein Expressed in <i>Escherichia coli</i> from a cloned Genomic Fragment," <u>Infect. Immun.</u> , 1990, 58:2637-2643
	AT	Laemmli, "Cleavage of Structural Proteins during the Assembly of the Head of Bacteriophage T4," <u>Nature</u> , 1970, 227:680-685
	AU	Liu et al., "GAA Trinucleotide Repeat Region Regulates M9/pMGA Gene Expression in <i>Mycoplasma gallisepticum</i> ," <u>Infect. Immun.</u> , 2000, 68:871-876
	AV	Luo and Lin, "Generation of Moderate Amounts of Polyclonal Antibodies in Mice," <u>BioTechniques</u> , 1997, 23:630, 632
	AW	Lysnyansky et al., "Phenotypic Switching of Variable Surface Lipoproteins in <i>Mycoplasma bovis</i> Involves High-Frequency Chromosomal Rearrangements," <u>J. Bacteriol.</u> , 1996, 178:5395-5401
	AX	Meier et al., "Immunodetection of Biotinylated Lymphocyte-Surface Proteins by Enhanced Chemiluminescence: A Nonradioactive Method for Cell Surface Protein Analysis," <u>Anal. Biochem.</u> , 1992, 204:220-226
	AY	Minion et al., "R1 Region of P97 Mediates Adherence of <i>Mycoplasma hyopneumoniae</i> to Swine Cilia," <u>Infect. Immun.</u> , 2000, 68:3056-3060
	AZ	Noormohammadi et al., "A novel mechanism for control of antigenic variation in the haemagglutinin gene family of <i>Mycoplasma synoviae</i> ," <u>Mol. Microbiol.</u> , 2000, 35:911-923
	AAA	Nouwens et al., "Complementing genomics with proteomics: The membrane subproteome of <i>Pseudomonas aeruginosa</i> PAO1," <u>Electrophoresis</u> , 2000, 21:3797-3809
	ABB	Probert et al., "Mapping the Ligand-Binding Region of <i>Borrelia burgdorferi</i> Fibronectin-Binding Protein BBK32," <u>Infect. Immun.</u> , 2001, 69:4129-4133
	ACC	Rabilloud et al., "Modified silver staining for immobilized pH gradients," <u>Electrophoresis</u> , 1992, 13:264-266
	ADD	Rocha et al., "Identification and Characterization of a Novel Fibronectin-Binding Protein on the Surface of Group A Streptococci," <u>Infect. Immun.</u> , 1999, 67:2720-2728
	AEE	Rosengarten and Wise, "Phenotypic Switching in Mycoplasmas: Phase Variation of Diverse Surface Lipoproteins," <u>Science</u> , 1990, 247:315-318
	AFF	Sachse et al., "Epitope Mapping of Immunogenic and Adhesive Structures in Repetitive Domains of <i>Mycoplasma bovis</i> Variable Surface Lipoproteins," <u>Infect. Immun.</u> , 2000, 68:680-687
	AGG	Scarman et al., "Identification of novel species-specific antigens of <i>Mycoplasma hyopneumoniae</i> by preparative SDS-PAGE ELISA profiling," <u>Microbiology</u> , 1997, 143:663-673
	AHH	Schorey et al., "Characterization of the fibronectin-attachment protein of <i>Mycobacterium avium</i> reveals a fibronectin-binding motif conserved among mycobacteria," <u>Mol. Microbiol.</u> , 1996, 21:321-329
	AII	Simecka et al., "Mycoplasma Diseases of Animals," <u>Mycoplasmas: Molecular Biology and Pathogenesis</u> , 1992, Maniloff et al. (eds.), Washington, D.C., American Society for Microbiology, pp. 391-415
	AJJ	Southern, "Detection of Specific Sequences Among DNA Fragments Separated by Gel Electrophoresis," <u>J. Mol. Biol.</u> , 1975, 98:503-517

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	AKK	Stevens and Krause "Localization of the <i>Mycoplasma pneumoniae</i> Cytoadherence-Accessory Proteins HMW1 and HMW4 in the Cytoskeletonlike Triton Shell," <u>J. Bacteriol.</u> , 1991, 173:1041-1050
	ALL	Strasser et al., "Cloning and Expression of a Species-Specific Early Immunogenic 36-Kilodalton Protein of <i>Mycoplasma hyopneumoniae</i> in <i>Escherichia coli</i> ," <u>Infect. Immun.</u> , 1991, 59:1217-1222
	AMM	Talay et al., "Co-operative binding of human fibronectin to SfbI protein triggers streptococcal invasion into respiratory epithelial cells," <u>Cell Microbiol.</u> , 2000, 2:521-535
	ANN	Thacker et al., "Potentiation of PRRSV pneumonia by dual infection with <i>Mycoplasma hyopneumoniae</i> ," <u>The Conference of Research Workers in Animal Diseases</u> , 1997, Ellis (ed.), Iowa State University Press, Ames, IA, #190
	AOO	Theiss and Wise, "Localized Frameshift Mutation Generates Selective, High-Frequency Phase Variation of a Surface Lipoprotein Encoded by a <i>Mycoplasma</i> ABC Transporter Operon," <u>J. Bacteriol.</u> , 1997, 179:4013-4022
	APP	Towbin et al., "Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: Procedure and some applications," <u>Proc. Natl. Acad. Sci. USA</u> , 1979, 76:4350-4354
	AQQ	Wilton et al., "Reiterated repeat region variability in the ciliary adhesin gene of <i>Mycoplasma hyopneumoniae</i> ," <u>Microbiology</u> , 1998, 144:1931-1943
	ARR	Yogev et al., "Increased Structural and Combinatorial Diversity in an Extended Family of Genes Encoding Vlp Surface Proteins of <i>Mycoplasma hyorhinis</i> ," <u>J. Bacteriol.</u> , 1995, 177:5636-5643
	ASS	Young et al., "Isolation and Characterization of High and Low Adherent Clones of <i>Mycoplasma hyopneumoniae</i> ," <u>IOM Letters. 10th International Congress of the International Organization for Mycoplasmaology</u> , 1994, Vol. 3, Bordeaux, France, pps. 684-685, #260
	ATT	Zhang et al., "Identification and Characterization of a <i>Mycoplasma hyopneumoniae</i> Adhesin," <u>Infect. Immun.</u> , 1995, 63:1013-1019
	AUU	Zhang and Wise, "Molecular Basis of Size and Antigenic Variation of a <i>Mycoplasma hominis</i> Adhesin Encoded by Divergent <i>vaa</i> Genes," <u>Infect. Immun.</u> , 1996, 64:2737-2744
	AVV	Zhang and Wise, "Localized reversible frameshift mutation in an adhesin gene confers a phase-variable adherence phenotype in mycoplasma," <u>Mol. Microbiol.</u> , 1997, 25:859-869

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